PROBLEMS AND SOLUTIONS - SIGNED NUMBERS
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PLEASE NOTE THAT YOU CANNOT USE A CALCULATOR ON THE ACCUPLACER - ELEMENTARY ALGEBRA TEST! YOU MUST BE ABLE TO DO THE FOLLOWING PROBLEMS WITHOUT A CALCULATOR!

Problem 1:

Which of the following numbers is the smallest?

$0, 1, -\dfrac{1}{3}, -3$

Problem 2:

Which of the following numbers is the smallest?

-10, -20, -5.3, 0

Problem 3:

Which of the following numbers is the largest?

-1, 0.01, 0.1, -0.2

Problem 4:

Evaluate $|-7|$.

Problem 5:

Evaluate $|5|$.

Problem 6:

Evaluate $|0|$.

Problem 7:

Evaluate $\left|-\frac{2}{3}\right|$.

Problem 8:

Evaluate $\left|\frac{7}{8}\right|$.

Problem 9:

Change $\dfrac{-5}{6}$ to two different equivalent fractions.

Problem 10:

Change $-\dfrac{3}{4}$ to two different equivalent fractions.

Problem 11:

Find the sum of **-2 + (-9)**.

Note: To separate the directional sign of a number from the operational sign, it is customary to enclose the signed number in parentheses!

Problem 12:

Find the sum of **+2 + (+9)**.

Note: It is not necessary nor is it customary and standard to include the positive sign for positive numbers. It is only done here to illustrate the concept of addition of signed numbers.

Problem 13:

Find the sum of **-2 + (+9)**.

Problem 14:

Find the sum of **2 + (-9)**.

Problem 15:

Carry out the following subtractions.

a. *12 - (+3)*

b. *5 - (+7)*

c. *-3 - (-5)*

d. *0 - (-5)*

e. *0 - (+5)*

Problem 16:

Find the sum of $\dfrac{-3}{4} + \dfrac{-4}{7}$ and write as a mixed number.

Problem 17:

Find the difference of $\dfrac{-3}{7} - \dfrac{4}{-7}$.

Problem 18:

Evaluate *3 + 5 - 6*.

Problem 19:

Evaluate *-18 + 12 - 7*.

Problem 20:

Evaluate *6 - 3 - (-10) - 7 + (-13) + 33*.

Problem 21:

Find the product of *-2(-9)*.

Problem 22:

Find the product of *2(9)*.

Problem 23:

Find the product of *-2(9)*.

Problem 24:

Find the product of **2(-9)**.

Problem 25:

Find the product of **0(-9)**.

Problem 26:

Find the product of **4(-3)(-2)(6)(-5)**.

Problem 27:

Find $\left(-\dfrac{1}{3}\right)^2$.

Problem 28:

Find the product of **3(-2)(-1)(0)(-9)**.

Problem 29:

Find the product of $\dfrac{-5}{6}\left(\dfrac{7}{-9}\right)$.

Problem 30:

Find the quotient of $\dfrac{-9}{-3}$.

Problem 31:

Find the quotient of $\dfrac{9}{3}$.

Problem 32:

Find the quotient of $\dfrac{9}{-3}$.

Problem 33:

Find the quotient of $\dfrac{-9}{3}$.

Problem 34:

Find the quotient of $\dfrac{-9}{0}$.

Problem 35:

Find the quotient of $\dfrac{0}{-9}$.

Problem 36:

Find the quotient of $\dfrac{-4}{3} \div \dfrac{5}{-7}$.

Problem 37:

Convert $-4\dfrac{7}{8}$ to an improper fraction.

Problem 38:

Convert $-1\dfrac{4}{9}$ to an improper fraction.

Problem 39:

Find the sum of $-6\dfrac{1}{2} + \left(-2\dfrac{2}{3}\right)$ and write as a mixed number.

Problem 40:

Use the **Order of Operation** to simplify $-6 \div (5 - 7) - 4(-6 + 1)^2 - 5^2$.

Problem 41:

Use the **Order of Operation** to simplify $7(3 + 9) - (6 - 3)$.

Problem 42:

Use the **Order of Operation** to simplify $2(6 - 8)^2 - (4 - 5)^2$.

Problem 43:

Use the **Order of Operation** to simplify $25 - 25 \div (-7 + 2)$.

Problem 44:

Use the **Order of Operation** to simplify $(-10 + 3)^2 + 4(-2) - (10 + 5) \div (-5)$.

Problem 45:

Use the **Order of Operation** to simplify $-6^2 + 3(-18) \div (-5 - 4)$.

SOLUTIONS
You can find detailed solutions below the link for this problem set!

1. -3	2. -20	3. 0.1
4. 7	5. 5	6. 0
7. $\dfrac{2}{3}$	8. $\dfrac{7}{8}$	9. $\dfrac{5}{-6}$, $-\dfrac{5}{6}$
10. $\dfrac{-3}{4}$, $\dfrac{3}{-4}$	11. -11	12. 11
13. 7	14. -7	15. a. 9 b. -2 c. 2 d. 5 e. -5
16. $-1\dfrac{9}{28}$	17. $\dfrac{1}{7}$	18. 2
19. -13	20. 26	21. 18
22. 18	23. -18	24. -18
25. 0	26. -720	27. $\dfrac{1}{9}$
28. 0	29. $\dfrac{35}{54}$	30. 3
31. 3	32. -3	33. -3
34. Undefined	35. 0	36. $1\dfrac{13}{15}$
37. $-\dfrac{39}{8}$	38. $-\dfrac{13}{9}$	39. $-9\dfrac{1}{6}$
40. -122	41. 81	42. 7
43. 30	44. 44	45. -30